Remarks

The Examiner's reconsideration of the application is urged in view of the amendment, filed on September 17 and the argument made in Applicants' response filed on the same date and the further arguments given below.

1. Non-obviousness

In the Office Action, page 2, point 3, claims 1, 3, 4, 7-18 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Booth, Jr. et al. (US 2003/0043088) in view of Oguchi et al. (US 6,340,976).

Further in the Office Action, page 6, point 4, claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Booth in view of Oguchi and further in view of Kojima et al. (US 6,313,806).

Claim 1 has been amended as indicate in the Response of September 17, 2007 by incorporating the feature of claim 6 i.e.: "determining a target luminance for each virtual target primary such that all or substantially all of the real primaries are able to realize the target luminance of the corresponding virtual primary" so that amended claim 1 corresponds to former claim 6 (which was dependent on claim 1).

Regarding the combination of Booth Jr. and Oguchi, the following is said in the Advisory Action:

> The teachings of Oguchi clearly show a method of calculating a virtual color primary using a center of gravity calculation method (Fig. 5; col. 10. lines 20 - 67). This method of calculation is applied to a color gamut measured from a modular display. While this measurement is not done on a pixel level, the method of calculation for a set of display level color gamuts could also be applied to a set of pixel level color gamuts. At the time of invention it would have been obvious to one skilled in the art that the center of gravity calculation for determining a virtual primary of a set of color gamuts as described by Oguchi could also be applied to a set of measured pixel color gamuts being determined by Booth Jr. Booth Jr. is interested in matching the color display values of one pixel to another pixel whereas Oguchi is matching the color display values for multiple display units. It would be logically obvious that the matching technique of Oguchi would also be applicable to matching the colors of pixels of Booth Jr. One skilled in the art would find the use of a minimized color gamut calculation as used by Booth Jr. or a center of gravity calculation as used by Oguchi would be a matter of design choice of selecting one of differing styles of mathematical calculations to match the displayed color

values from different elements with different measured color gamuts. Both types of calculations are used with the intent of producing a virtual color gamut to be used by multiple display elements (devices or pixels) to match the displayed color across all display elements.

Nevertheless, Applicants respectfully disagree. It may be useful to clearly distinguish beforehand between the two general methods for describing colors, i.e. the tristimulus values X, Y, Z of a color, in reality three space vectors defining a certain color; and the chromacity coordinates x and y; the color characteristics of a pixel define a "gamut" in a two dimensional plane. In order to get complete information, the chromacity coordinates are to be supplemented by the luminance value.

Although there exists a mathematical relationship between the tristimulus values and the chromacity coordinates, both represent two different ways of describing colors (see also the specification, from page 8, line 29 to page 9, line 22).

Claim 1 of the present invention comprises the following features:

- determining, for each real primary color separately, a virtual target primary color,

- determining a color gamut defined by the determined virtual target primary colors"

and

- wherein determining the color co-ordinates of a virtual target primary colour comprises determining a centre of gravity of a cloud formed by the color co-ordinates of the corresponding real primary colours of all pixels of the display device.

By determining a virtual target primary color is meant determining the chromacity coordinates x, y of a target color and the determination of the color gamut is then based on this chromacity coordinates x, y. The whole is thus performed in a two-dimensional plane and only "colors" are involved in the determination; luminance is not involved in these steps.

However, in Oguchi, the calculations are done on the basis of the tristimulus values and luminance is immediately involved (col. 10, lines 20-67, in particular equation 13). Because it is difficult to display in the 3-dimensional space, the results of the 3-dimensional calculations are represented in the 2-dimensional x, y chromacity diagram of Fig. 5(col.10, lines 47-51). Mathematically, the results of the center of gravity calculation according to Oguchi are not necessarily coinciding with the results of the center of gravity calculation

according to the invention, because in Oguchi three coordinates are involved. By limiting the calculations, in a first step, to two coordinates (the pure color coordinates x and y), the invention can find the best "color"-match between the different pixels.

It must thus be concluded that applying the teachings from Oguchi to Booth Jr cannot lead to the results of the invention.

Regarding the feature in claim 1, "determining a target luminance for each virtual target primary such that all or substantially all of the real primaries are able to realize the target luminance of the corresponding virtual primary," the Office Action combines the teachings from Kojima with the teachings in Booth Jr. and Oguchi.

Such a combination is against any technical common sense. Indeed, by calculating the tristimulus values XYZ of a target color according to Oguchi, a "target" luminance of this target color is also calculated and it is no longer necessary to determine a further target luminance. In Oguchi, this target luminance is set as an average of the luminance of the different display units and the goal, set by Kojima ("the luminous intensity...are matched") is already reached in Oguchi. There is no reason for a person of ordinary skill in the art to combine the teachings from Kojima with Oguchi, because Kojima brings no further technical contribution.

In this respect, the attention is further drawn to the fact that, according to Oguchi, the target luminance is set to an average, which means that the luminance of a number of display units is above this target luminance and the luminance of another number of display units is under this target luminance. This does not exclude that certain display units cannot achieve this target luminance. This drawback may be more acceptable in multi-vision systems, having by nature a more limited number of display units compared to display devices comprising a very high number of pixels.

From the above, it is apparent that combining the teachings of Oguchi with Booth Jr. (as far as such a combination is allowed, which is contested, see the Response of September 17) does not render claim 1 obvious and it is also apparent that a further combination of these two references with the teachings by Kojima, does not bring any further technical contribution.

Therefore, it is also submitted that amended claim 1, filed in the response of September 17, is non-obvious in view of the prior art.

Claims 3, 4, 7-18 and 21 are all claims depending on amended claim 1 and they are thus also submitted to be non-obvious.

In the Office Action, page 7, point 5, claims 19 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Booth in view of Oguchi and further in view of Ohtsuka et al. (US 2003/0003544).

Both claims 19 and 20 are dependent on claim 1 and are thus also submitted to be non-obvious.

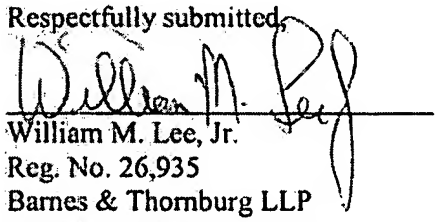
II. Conclusion

Applicants submit that the claims are in condition for allowance, and such action is requested.

As this response is being filed during the fifth month following the examiner's office action (November 4, 2007 being a Sunday) an appropriate further petition for an extension of time for the fifth month is also submitted herewith.

November 5, 2007

Respectfully submitted,



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